

Appl. No. 10/765,959
In re BAXTER
Reply to Office Action of Apr. 20, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A torque transmitting apparatus comprising:
a differential assembly including a differential case and at least one output shaft;
a housing rotatably supporting said differential assembly;
a drive pinion provided for rotating said differential assembly;
at least one friction clutch assembly for selectively engaging and disengaging said differential case and said at least one output shaft; and
a hydraulic clutch actuator for selectively operating said at least one friction clutch assembly between a disengaged condition and an engaged condition;
said hydraulic clutch actuator including a hydraulic pump providing a hydraulic fluid under pressure and a hydraulic pressure accumulator selectively communicating with said hydraulic pump for charging said hydraulic pressure accumulator with said hydraulic fluid under pressure;
said hydraulic pump is mounted within said housing about a pinion shaft of said drive pinion;

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 said hydraulic pressure accumulator mounted to said housing and selectively communicating with said at least one friction clutch assembly for selectively engaging said at least one clutch assembly.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (original): The torque transmitting apparatus as defined in claim 1, wherein said hydraulic pump is a gerotor pump.

Claim 5 (currently amended): The torque transmitting apparatus as defined in claim [[2]] 1, wherein said hydraulic clutch actuator further includes a directional valve provided for selectively directing the hydraulic fluid from said pump to said hydraulic pressure accumulator.

Claim 6 (currently amended): The torque transmitting apparatus as defined in claim 5, wherein said directional valve is mounted within disposed in a wall of said housing.

Claim 7 (original): The torque transmitting apparatus as defined in claim 1, wherein said at least one friction clutch assembly includes a piston assembly provided for setting said clutch

assembly in said engaged condition in response to hydraulic pressure from said accumulator.

Claim 8 (original): The torque transmitting apparatus as defined in claim 1, further including a fluid reservoir for storing a supply of said hydraulic fluid, said fluid reservoir is in fluid communication with said hydraulic pump.

Claim 9 (currently amended): The torque transmitting apparatus as defined in claim [[2]] 1, further including a fluid reservoir disposed in said housing for storing a supply of said hydraulic fluid, said fluid reservoir is in fluid communication with said hydraulic pump.

Claim 10 (original): The torque transmitting apparatus as defined in claim 9, wherein said hydraulic clutch actuator further includes a directional valve provided for selectively direct the hydraulic fluid from said pump to said hydraulic pressure accumulator and from said hydraulic pump to said fluid reservoir.

Claim 11 (original): The torque transmitting apparatus as defined in claim 10, wherein said directional valve directs said fluid from said hydraulic pump to said hydraulic pressure accumulator until a pressure within said accumulator reaches a predetermined value and directs said fluid from said hydraulic pump to said fluid reservoir when the pressure in said hydraulic pressure accumulator reaches said predetermined value.

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Claim 12 (canceled)

Claim 13 (currently amended): The torque transmitting apparatus as defined in claim [[2]]
1, wherein said hydraulic pump is activated in response to rotation of said drive pinion.

Claim 14 (currently amended): The torque transmitting apparatus as defined in claim [[2]]
1, wherein said hydraulic clutch actuator further includes a control valve providing selective fluid
communication between said hydraulic pressure accumulator and said at least one friction clutch
assembly for selectively setting said clutch assembly in said engaged condition.

Claim 15 (currently amended): The torque transmitting apparatus as defined in claim 14,
wherein said control valve is ~~mounted within~~ disposed in a wall of said housing.

Claim 16 (original): The torque transmitting apparatus as defined in claim 14, wherein
said control valve is a solenoid-operated valve.

Claim 17 (currently amended): The torque transmitting apparatus as defined in claim 6,
further including a first communication passage integrally formed ~~within~~ in a wall of said
housing for fluidly connecting said directional valve with said accumulator.

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Claim 18 (currently amended): The torque transmitting apparatus as defined in claim 15, further including a second communication passage integrally formed within in a wall of said housing for fluidly connecting said accumulator with said control valve.

Claim 19 (currently amended): The torque transmitting apparatus as defined in claim 14, wherein said control valve is actuated by an electronic control module in response to at least one condition parameter of a motor vehicle.

Claim 20 (currently amended): The torque transmitting apparatus as defined in claim 19, wherein said at least one condition parameter is an activation of an anti-lock braking system of [[a]] the vehicle.

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (currently amended): A torque transmitting apparatus comprising:
a housing rotatably supporting a differential assembly and a drive pinion provided for rotating said differential assembly;
said differential assembly including a differential case and at least one output shaft;

a friction clutch assembly for selectively engaging and disengaging said differential case and said at least one output shaft;

a hydraulic clutch actuator for operating said friction clutch assembly between a disengaged condition and an engaged condition; and

a fluid reservoir disposed in said housing for storing a supply of said hydraulic fluid; said hydraulic clutch actuator including a hydraulic gerotor pump mounted within said housing about a pinion shaft of said drive pinion and providing a hydraulic fluid under pressure, a hydraulic pressure accumulator mounted directly to said housing and selectively communicating with said pump for charging said accumulator with said hydraulic fluid under pressure, a directional valve mounted within disposed in a wall of said housing and provided for selectively directing the hydraulic fluid from said pump to said hydraulic pressure accumulator and from said hydraulic gerotor pump to said fluid reservoir, a solenoid-operated control valve mounted within disposed in said wall of said housing and providing selective fluid communication between said hydraulic pressure accumulator and said friction clutch assembly for selectively setting said clutch assembly in said engaged condition, a first communication passage integrally formed in said wall of said housing for fluidly connecting said directional valve with said accumulator, a second communication passage integrally formed in said wall of said housing for fluidly connecting said accumulator with said control valve, and an electronic control module actuating said control valve in response to an activation of an anti-lock braking system of a vehicle;

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 said hydraulic gerotor pump being activated in response to rotation of said drive pinion;
 and

 said fluid reservoir being in fluid communication with said hydraulic gerotor pump.